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Abstract: Sheep (*Ovis aries*) producers were surveyed in Kansas to determine the efficacy of livestock guarding dogs (*Canis familiaris*) for protecting sheep from coyote (*Canis latrans*) predation. The majority of producers rated their guard dogs' predator control performance as good or excellent, indicating. that the dogs reduced their reliance on other control methods and substantially reduced monetary losses.

Introduction

Livestock guarding dogs have been used in the United States since the early 1970's to protect sheep from coyote predation. Most guard dogs are large, weighing from 75 to over 100 lbs., and are over 25 inches tall at the shoulders. Most guard dogs were selectively bred in Europe and Asia to protect livestock from predators.

The effectiveness of guard dogs for reducing coyote predation on domestic sheep recently has been evaluated by Linhart et al. (1979), McGrew and Blakesley (1982), Pfeifer and Goos (1982), Coppinger et al. (1983), Green et al. (1984), and Black and Green (1985). This study was conducted to evaluate the efficacy of guard dogs for protecting sheep from coyote predation under fenced grazing conditions in Kansas.

I thank J. S. Green for providing a guard dog survey which was modified for the current study.

Methods

County extension agents in Kansas were contacted to obtain names of producers using guard dogs for protecting sheep from predators. Producers using guard dogs were then mailed a questionnaire in 1984 to evaluate costs, benefits, effectiveness, problems, and general satisfaction with guard dogs.

Results and Discussion

Surveys were mailed to 33 producers identified as using guard dogs to protect sheep in Kansas. Responses were received from ZZ producers of which 19 used guard dogs to protect sheep. Sixteen producers used Great Pyrenees, 3 used Komondorok, and 1 producer also used a Shar Planinetz-Anatolian cross to guard sheep.

The purchase price of pups and adults averaged $240 and $690, respectively, and shipping costs averaged $26 per dog in Kansas. The cost of pups in Kansas was less than the averages of $331 and $458 (depending on breed) reported by Green et al. (1984). Maintenance costs (food, veterinary care, miscellaneous) averaged $250 per dog annually in Kansas whereas Green et al. (1984) reported annual maintenance costs (excluding mileage) of $235 per dog. Producers in Kansas averaged 6 miles and 5 hours per month in order to train, feed, move, and retrieve each dog.

Most producers reported few or no problems between guard dogs and familiar farm dogs, but 16 of 17 producers reported adult guard dogs responded to strange dogs by attacking, chasing or alerting the owner of the dog's presence. Two of 3 owners of Komondorok and 2 of 13 owners of Great Pyrenees reported that their dogs had been aggressive toward humans. Green and Woodruff (1980) reported that 78% of the owners of Komondorok and 22% of the owners of Great Pyrenees rated their dogs as aggressive to strange people. Most producers in Kansas reported that their puppies were playful with sheep, and only 1 producer reported 4 sheep which were injured by a guard dog. All producers exposed their pups to sheep prior to 6 months of age.

Sixteen of 17 producers rated their guard dogs' predator control performances as good or excellent while 15 reported the dogs reduced their reliance upon other forms of predator control Coppinger et al. (1983) reported that 63% of the cooperators surveyed indicated guard dogs reduced predatory attacks. Green et al. (1984) surveyed 45 producers owning 137 dogs of which 109 (80%) were reported to be effective guardians. Pfeifer and Goos (1982) surveyed 36 guard dog owners and reported guard dogs reduced predation by 93% in North Dakota,. Twelve of 17 producers in Kansas reported that their guard dogs assisted with predator control activities by locating and alerting the producer to the presence of predators. Sixteen of 17 producers reported a greater peace of mind knowing that a dog was protecting their flock. Other reported advantages of guard dogs included companionship, no fuel or machinery thefts, longer grazing periods, and family protection.

Twelve of the Kansas producers collectively estimated that their 24 guard dogs saved a total of $27,000 in sheep losses to predators annually (range = $600 – $7,200 per producer); the other producers were unable to estimate reductions in predation because. they either purchased their sheep and guard dogs simultaneously or owned young, inexperienced pups. Similarly, in a survey of 40 ranchers, Green et al. (1984) reported guard dogs annually saved an average of 68 sheep or goats per producer, valued at as average of $3,836.

I recognize some of the biases of this survey for evaluating the effectiveness of guard dogs for protecting sheep from predation. Most (18 of 19) respondents were using guard dogs when surveyed; current owners may have had better success with guard dogs than past owners, thus exaggerating the positive results. However, numerous contacts with county agents and producers indicated few producers quit using guard dogs. Thus, I believe this survey was a relatively accurate assessment of owners' perceptions of guard dogs. The data obtained in this study and reported elsewhere indicate that guard dogs are an important addition to our techniques for reducing predation on sheep.

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